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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,824	06/21/2001	George Alfred Velius	41942-52970	6850
21888 7590 06/19/2008 THOMPSON COBURN, LLP ONE US BANK PLAZA SUITE 3500 ST LOUIS, MO 63101				
EXAMINER BROWN JR, NATHAN H				
ART UNIT 2129		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPDOCKET@THOMPSONCOBURN.COM

Office Action Summary

Application No.

09/886,824

Applicant(s)

VELIUS, GEORGE ALFRED

Examiner

NATHAN H. BROWN JR

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23, 25-31, 35, 37-39, 41-44 and 52-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23, 25-31, 35, 37-39, 41-44, and 52-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ ~~Notes of Informal Patent Application~~
- 6) ☐ Other: _____

Examiner's Detailed Office Action

1. This Office Action is responsive to the communication for application 09/886,824, filed April 3, 2008.
2. Claims 23, 25-31, 35, 37-39, 41-44, and 52-59 are pending. Claims 23, 25-31, 35, 37-39, 41-44, and 52-55 are currently amended. Claims 56-59 are new. Claims 1-22, 24, 32, 34, 45, and 47-51 are previously cancelled. Claims 33, 36, 40, and 46 are cancelled.
3. After the previous office action, claims 23, 25-31, 33, 35-44, 46, and 52-55 stood rejected.

Claim Rejections - 35 USC § 112, 1st

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 23, 25-31, 52, 53, and 59 are rejected under 35 U.S.C. 112, first paragraph.

Specifically, if the application fails as a matter of fact to satisfy 35 U.S.C. § 101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the

invention under 35 U.S.C. § 112.; *In re Kirk*, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) MPEP 2107.01 (IV).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 23, 25-31, 52, 53, and 59 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: abstraction, algorithm and/or mental steps. Amended independent claim 23 recites a “method of utilizing an adaptive speaker identity verification system comprising: receiving first input data, which represents a person’s unclassified speech utilizing the adaptive speaker identity verification system; receiving a second data...; computing a transform of the first input data using the second input data...; and establishing at least one decision criterion wherein the at least one decision criterion corresponds to a level of similarity or a level of dissimilarity...”. Clearly, applicant’s invention starts with the receipt of data and performs a mathematical transform on the data to establish a decision criterion. Examiner considers the claim 23 to recite the performance of a transform by purely mental steps to derive a decision criterion which is a mathematical abstraction. Amended independent claim 23 is therefore considered to be a process claim not tied to another statutory class (such as a particular apparatus) and which does not transform underlying subject matter (such as an article or materials) (*see* Fed. Cir. *In re Bilski*, Appeal No. 2007-1130). Claims 25-31, 52, 53, and 59, which depend from claim 23, provide detailed mathematical limitations to claim 23, but do not cure the deficiency of claim 23. Therefore, claims 23, 25-31, 52, 53, and 59 are considered non-statutory under 35 U.S.C. 101.

8. Claims 35, 37-39, 41-44, and 54-58 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: abstraction and/or algorithm. Amended independent claim 35 recites an:

“adaptive speaker identity verification system comprising: an adaptive speaker identity verification system, which receives first input data, which represents a person's unclassified speech, and receives second input data, which represents in part probability distributions for authentic and spurious classes based upon the pooled output statistics of the adaptive speaker identity verification system”

which

“computes a transform of the first input data using the second input data with a normalized detector scale transformer associated with the adaptive speaker identity verification system onto a normalized, one dimension, decision scale based on the transform and then establishes at least one decision criterion, wherein the at least one decision criterion corresponds to a level of similarity or a level of dissimilarity between the first input data representing a person's unclassified speech data and the second input data with the adaptive speaker identity verification system.”

Clearly, applicant's system starts with the receipt of data and performs a mathematical transform on the data to establish a decision criterion. Examiner considers claim 23 to recite the performance of a transform requiring no more than the mental steps required by a mathematical system of specified calculations to derive a decision criterion. Examiner considers the resulting decision criterion to be a mathematical abstraction. Amended independent claim 23 is therefore considered to recite an abstract system not tied to another statutory class (such as a particular apparatus) and which does not transform underlying subject matter (such as an article or materials) (*see* Fed. Cir. *In re Biiski*, Appeal No. 2007-1130). Claims 37-39, 41-44, and 54-58, which depend from claim 23, provide detailed mathematical limitations to claim 23, but do not

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cure the deficiency of claim 23. Therefore, claims 35, 37-39, 41-44, and 54-58 are considered non-statutory under 35 U.S.C. 101.

Response to Arguments

9. Applicant's arguments filed April 3, 2008 have been fully considered.

Rejection of Claim 23 Under 35 U.S.C. §112

Applicant argues:

Claim 23 was rejected under 35 U.S.C. § 112 for failing to comply with the written description requirement and for failing to set forth that which the inventor regards as the invention. Claim 23 is amended to recite: "A method of utilizing an adaptive speaker identity verification system comprising:" Support for this amendment can be found on Page 2, Paragraph [0016], Lines 1-2 of Applicant's Published Patent Application, i.e., U.S. Patent Application Publication No. 20020198857, published December 26, 2002...

Examiner responds:

Applicant's argument is moot based on new grounds of rejection under 35 U.S.C. §112.

Rejection of Claims 23, 25-31, 33, 35-44, 46, and 52-55 Under 35 U.S.C. §101

Applicant argues:

Claims 23, 25-31, 33, 35-44, 46, and 52-55 were rejected under 35 U.S.C. § 101 for reciting a mathematical algorithm. Claims 33, 36, 40 and 46 are canceled and it is respectfully believed that this rejection with regard to Claims 33, 36, 40 and 46 is rendered moot. Claims 23 and 35 are amended to recite an "adaptive speaker identity verification system" (emphasis added). Support for this amendment can be found on Page 2, Paragraph [0016], Lines 1-2 of Applicant's Published Patent Application, i.e., U.S. Patent Publication No. 20020198857, published December 26, 2002...

An adaptive speaker identity verification system is a well-known commercially available device. For example, a speaker identity verification system is described in detailed in U.S. Patent No. 5,517,558, issued to Schalk, see Exhibit A...

Examiner responds:

Examiner considers Applicant's invention to be clearly bounded by the "Input Data" and the "Outcome Set" (see Figs. 1 and 2). While the input data *may* be derived from the operation of "an adaptive speaker identity verification system" as described in U.S. Patent No. 5,517,558, Examiner does not consider the Applicant's invention to be tied to the operation of such an apparatus, because the input data may be supplied to Applicant's invention at any time after the generation of the data by any means outside of the boundary shown in Figs. 1 and 2. Further, the steps of computing the decision criterion of Applicant's invention (as defined at pp. 7-10 of the Specification) are not defined as being reliant on any computational engine and all of the calculations described can be performed manually. Examiner maintains the rejection of claim 23 and its dependent claims under 35 U.S.C. § 101.

Rejection of Claims 23, 24, 35, and 44 Under 35 U.S.C. §103(a)

Applicant argues:

Claim 23 has been amended to now recite "receiving first input data, which represents a person's unclassified speech utilizing the adaptive speaker identity verification system; receiving second input data, which represents in part probability distributions for authentic and spurious classes based upon the pooled output statistics of the adaptive speaker identity verification system...

In marked contrast, Hamid recites: "A method of registering biometric information of an individual comprising the steps of: a) providing a biometric information sample from

each of a plurality of different biometric sources of the same individual to at least one biometric input device in communication with a host processor; b) associating each provided biometric information sample with a biometric source; c) using the processor, registering each biometric information sample against a template associated with the associated biometric source;..." (Claim 1, Column 13, Lines 43-53) (emphasis added). Comparing a single data source against a template is very different operation than two sources of data. Moreover, the portions recited by the Examiner, Column 10, Line 48 to Column 11, Line 39 are directed to equations involving fingerprints and not speech.\

Claim 23 further recites: "...computing a transform based on the output; and of the first input data using the second input data with a normalized detector scale transformer associated with the adaptive speaker identity verification system onto a normalized, one dimension, decision scale based on the transform; "As shown in detail by Applicant in response to the rejection under 35 U.S.C. § 112, no new matter has been added. Also, Claim 23 further recites: "establishing at least one decision criterion, wherein the at least one decision criterion corresponds to a level of similarity or a level of dissimilarity between the first input data representing a person's unclassified speech data and the second input data with the adaptive speaker identity verification system." As shown in detail by Applicant in response to the rejection under 35 U.S.C. § 112, no new matter has been added. These two features are wholly absent from Hamid.

Campbell et al. is directed to "...a new object recognition algorithm that is especially suited for finding everyday objects in an intelligent environment monitored by color video cameras" (Campbell et al., Page 1, Column 1, Section 1, Lines 1-4). Moreover, Campbell et al. recites: "We present an algorithm that can be trained with only a few images of the object, that requires only two parameters to be set, and that runs at 0.7 Hz on a normal PC with a normal color camera. The algorithm represents an object's features as small, quantized edge templates, and it represents the object's geometry with "Hough kernels". The Hough kernels implement a variant of the generalized Hough transform using simple, 2D image correlation. The algorithm also uses color information to eliminate parts of the image from consideration." (Campbell et al., Abstract, Page 1, Column 1, Lines 8-18) (emphasis added). Therefore, Campbell et al. is for a visual recognition system that teaches away from the Applicant's Invention by using objects and creating a two dimension correlation while the Applicant's Invention, as claimed, requires, "...computing a transform of the first input data using the second input data with a normalized detector scale transformer associated with the adaptive speaker identity verification system onto a normalized, one dimension, decision scale based on the transform." (emphasis added). Therefore, Campbell et al. clearly teaches away from the Applicant's Invention that utilizes "a normalized, one dimension, decision scale" as claimed.

Therefore, Claims 23 and 35 overcome the rejection under 35 U.S.C. § 103(a) as being unpatentable over Hamid in view of Campbell et al.

Claim 24 was previously canceled by Applicant and Claims 33, 36 and 46 are currently canceled in this Amendment. Therefore, the rejection of Claims 24, 33, 36 and 46 under 35 U.S.C. § 103(a) as being unpatentable over Hamid in view of Campbell et al. is respectfully believed to be rendered moot.

Claim 44 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamid in view of Campbell et al. Since Claim 44 depends from and contains all of the limitations of Claim 35, Claim 44 is felt to distinguish over Hamid in view of Campbell et al. in the same manner as Claim 35. Therefore, Claim 44 overcomes the rejection under 35 U.S.C. § 103(a).

Examiner responds:

Examiner finds Applicant's arguments to be persuasive. Examiner withdraws the rejection of claims 23, 24, 35, and 44 under 35 U.S.C. § 103(a).

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions

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on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129

Nathan H. Brown, Jr.

June 17, 2008